away from the proposed combination, and that the proposed combination would change the principle of operation of Cunningham. That is, the Office Action(s) (e.g., Final Office Action at page 2, paragraph 4) takes the position that Cunningham discloses recognition of a zero offset error, and that "changes in temperatures may cause the zero offset to drift over time, necessitating compensation for the drift." The Office Action(s) then asserts that Wang may be used to modify Cunningham and thereby arrive at the invention of claim 1, because Wang teaches that "mass flow meters may be corrected for temperature variation by a determination of drift of offset with temperature" (page 2, paragraph 6).

As pointed out in Applicant's previous response, however, Cunningham addresses the issue of temperature variation by using techniques for compensating mass flow measurements by determining "residual motion attributable to off-resonance contributions of (vibrational) modes," and then basing future mass flow compensations on this information. In this way, Cunningham addresses temperature variation using "...methods of determining mass flow which are less sensitive to changes in process conditions" (see e.g., Cunningham, column 2, lines 32-36).

As a result, Cunningham "teaches away" from the proposed modification by Wang (MPEP 2143.01). Moreover, modifying Cunningham to use the temperature correction techniques of Wang would have changed the principle of operation of Cunningham (*Id*), and disregarded the teachings of the latter reference for dealing with temperature variations.

Moreover, the Office Action does not appear to state any particular motivation or advantage to the proposed combination *beyond that which is already stated in Cunningham.* That is, Cunningham, at best, identifies the problem of zero-offset drift in the field of vibrational flowmeters, and presents a solution (as just described). There is no indication in either Cunningham or Wang (or any proper combination thereof), however, that this solution of Cunningham for dealing with temperature variation would have been improved, or was otherwise problematic, insufficient, or unsatisfactory, such that a practitioner of Cunningham would have been led by Wang to modify Cunningham and arrive at Applicant's claimed invention.

Indeed, the Office Action merely states in the paragraphs bridging pages 2 and 3 that Wang discloses that (with emphasis added), "mass flow meters *may be* corrected for temperature variation by" the alleged teachings of that reference, and that "...equations *permit for* flow meter signal correction for variation in temperatures." The Office Action further states that "it is known to employ look-up charts ... and interpoloations/extrapolations as a means of determination of values in lieu of equation usage." However, MPEP 2143.01 states that the "mere fact that references can be combined or modified does not render the resultant combination obvious, unless the prior art also suggests the desirability of the combination," and, additionally, that the fact that a claim feature was within the capabilities of one of ordinary skill is not sufficient, by itself, to establish prima facie obviousness.

Here, then, the Office Action does not make the showing required by 35 U.S.C. 103(a) that Wang *would have* motivated a practitioner of Cunningham to modify the latter reference, because Cunningham teaches that the desired result (of reducing effects of temperature variation) is *already* achieved by the techniques disclosed therein, which are admittedly and entirely different from the techniques of Wang. Therefore, even if Wang discloses the use of various compensation techniques, Wang does not disclose that such techniques would have provided an advantage *beyond the advantages already provided by the techniques of Cunningham.*

Second, with respect to Applicant's argument that Cunningham and Wang are non-analogous art *with respect to Applicant's claimed invention*, the Office Action identifies Cunningham and Wang as "directed to the flowmeter art" and/or "an offset problem created by temperature variation." As pointed out in Applicant's previous response, however, "the flowmeter art" is an overly-broad classification of Cunningham and Wang with respect to Applicant's claimed invention.

In particular, categorizing the "vibrating conduit parameter sensors" of Cunningham with the thermal mass meter of Wang is similar to categorizing, for example, an automobile and a bicycle in "the transportation art." That is, even though automobiles and bicycles may share certain features (e.g., use of wheels to transport passengers), the pertinent question(s) for the purposes of establishing a prima facie case of obviousness is whether a practitioner of the

"vibrating conduit parameter sensors" of Cunningham, when considering zero-offset drift with temperature during operation thereof, would have looked to the thermal mass meter and temperature compensation techniques of Wang, given that *the structure and function* of the devices of Cunningham and Wang are entirely different from one another (as set forth in detail in Applicant's response of September 16, 2004) with respect to the particular problem that Applicant has solved (MPEP 2141.01(a)).

Accordingly, Applicant submits that the structures of Cunningham and Wang have the differences that have been previously described, and the functions of Cunningham and Wang are similar, at best, at only an abstract level. As a result, Applicant again submits that Cunningham and Wang are non-analogous art with respect to Applicant's claimed invention.

Third and finally, with respect to the issue of whether a reasonable expectation of success exists for the proposed modification, Applicant's previous response pointed out that the mere fact that Wang discloses, at best, an equation or calculation for temperature compensation in thermal mass meters does not provide a reasonable expectation that a corresponding equation could easily have been derived in the context of the "vibrating conduit parameter sensors" (i.e., Coriolis flowmeter) of Cunningham. The Office Action takes the position in the final three paragraphs of page 3 that "Wang suggest(s) correction for temperature variation in flowmeters with calculation," that the "exact relation that would appear in a Coriolis flowmeter is within one of ordinary art," and that "the Wang teaching is simple enough."

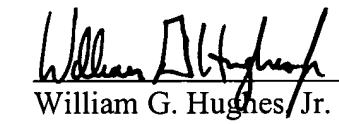
However, Wang discloses extensive and specific calculations for thermal mass meters, and does not, in fact, provide a general teaching of calculations for correction of temperature variation in flowmeters, as asserted. Therefore, Wang does not provide a reasonable expectation that similar calculations and equations exist or could be applied in a practical manner for Coriolis flowmeters. For example, neither Cunningham nor Wang considers that a relation between the zero offset of Cunningham and an operating temperature of the Coriolis flowmeter of that reference may be subject to non-linearities, or may vary with other, undetermined (or difficult-to-determine) processing conditions, such that an application of such an equation may be difficult or impractical.

Based on the above, Applicant submits that no prima facie case of obviousness has been established, so that claims 1 and 2 are in condition for allowance for at least the above reasons, and claims 15-17, 28, and 36 are allowable for at least the same reasons. Moreover, since independent claims 1, 15, and 28 were indicated in the Restriction Requirement of May 4, 2004 to link remaining claims 3-14, 18-27, 29-35, 37, and 38, Applicant submits that all of claims 1-38 are in condition for allowance, and such action is hereby requested in the Examiner's next official communication.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: November 29, 2004



William G. Hughes, Jr.
Reg. No. 46,112

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (202) 783-2331

40254659.rtf